

SECTION 15400 - PLUMBING

PART 1 - GENERAL

1.1 SCOPE OF SECTION:

This section contains material and equipment for plumbing (domestic water, waste, and vent piping materials used within buildings), including plumbing fixtures, plumbing specialties, and disinfection of the interior water distribution system.

1.2 PLUMBING PIPING:

- A. DOMESTIC WATER (INSIDE THE BUILDING): Copper tube Type L soldered to wrought copper or cast bronze fittings. Solder joints shall be provided with a lead free material approved by NSF (National Sanitation Foundation) and in compliance with ANSI 61 suitable for domestic water systems. Solder paste shall be non-toxic water-based approved by NSF for use in domestic water systems. Solder paste shall be suitable for solder based filler material used. Acid flux is prohibited. Uses of solder materials not approved by the NSF and not in compliance with ANSI 61 are prohibited and are not acceptable.
- B. REVERSE OSMOSIS / DEIONIZED WATER: CPVC shall be used for plumbing piping for both RO & DI water systems.

1.3 PLUMBING SPECIALTIES:

- A. ACID DILUTION OR NEUTRALIZATION PITS: Acid dilution or neutralization pits are not required, nor recommended, for any new construction or renovation project.
- B. BUILDING FLOOR DRAINS: Floor drains in buildings are not required or recommended unless they are self-priming.
- C. Key operated hose bibs shall be provided in toilet rooms, machinery rooms, and at 200-foot intervals in exterior areas for maintenance use.
- D. On back to back sink drain piping provide a clean out in the ceiling directly above the sanitary cross connection.

1.4 PLUMBING FIXTURES:

A. WATER HEATERS:

1. Domestic Hot Water at sinks or faucets is not allowed, except in laboratories, and janitorial/custodial closets as required by code, and is required in showers to meet LEED Sustainable Sites, Credit 4.2: Alternative Transportation: Bicycle Storage & Changing Rooms, or as specifically approved by Physical Plant Division, Operations Engineering Energy Conservation Office. Solar heating is an acceptable alternative means of heating the water required for the exceptions noted. To justify the use of solar heating, a positive, long term cost model that proves solar heating is an efficient option shall be provided.
2. Electric hot water shall not be used in buildings, which are provided with hot water

generated by steam supply, unless approved by the Physical Plant Division

B. WATER CLOSETS:

1. All water closets shall be wall mounted, dual flush, low-flow or ultra low-flow fixtures.
2. Acceptable Manufacturers: American Standard; Briggs; Eljer; Kohler; Crane; Zurn; Toto; Falcon.

C. URINALS:

1. All urinals installed in new construction shall be waterless, or if non-potable water is used for a flushing agent, low flow (< 1 pint) is an acceptable alternative. Restroom renovations requiring complete toilet replacement shall be either waterless or low flow (< 1 pint). All waterless urinals shall be of the cartridgeless variety. Urinals shall be standard white, vitreous china.
2. Acceptable Manufacturers: Falcon, Sloan, Zurn, Kohler, Toto
3. Plumbing: Waterless urinals shall be installed per manufacturers recommendations. All waterless urinal lateral waste arms shall be entirely PVC to the vertical main and have a slope of ¼ inch per foot.

D. FLUSH VALVES:

1. Flush valves shall be automatic sensor driven or low flow dual flush type.
2. Acceptable Manufacturers: Briggs; Eljer; Kohler; Falcon; Sloan; Zurn
3. Consider the use of solar powered flush valves.

E. LAVATORIES:

1. Vanity type is preferred.
2. Acceptable Manufacturers: Briggs; Eljer; Kohler;

F. FAUCETS: Acceptable manufacturers are Delta; T&S

1. Spring coiled-self closing faucets will be used when dispensing with demineralized / deionized water systems and reverse osmosis water.
2. Automatic electronic sensor controlled faucets shall be used in all restrooms.
3. Consider the use of solar powered faucets.
4. Acceptable Manufacturers: Delta; T&S; Soan; Chicago

G. WATER FOUNTAINS:

1. Fountains shall not be recessed into the wall.
2. New or replacement fountains shall have both bubblers and glass fillers.
3. Acceptable Manufacturers: Ebco; Elkay; Halsey Taylor

1.5 DISINFECTION OF WATER DISTRIBUTION SYSTEMS (WITHIN BUILDINGS):

A. GENERAL: All piping for water distribution systems shall be cleaned and tested.

B. POTABLE WATER LINES:

1. Flushing, cleaning, sterilization and pressure testing procedures shall be explicitly specified, and shall comply with the appropriate AWWA standard, and with the State of Florida Health Standards.
2. Water samples shall be tested at HRS/Alachua County Public Health Unit, Environmental Health Division, 730 N. Waldo Road, Suite 400, Gainesville (352) 336-2350. Currently a fee is charged for this test. Test results are to be forwarded to the UF Project Manager and Physical Plant Division, Operations Engineering Section before service is turned on. A representative from PPD Operations Engineering should be present during the water sampling.

C. CHILLED, HEATING, AND CONDENSER WATER SYSTEMS: All chilled, heating, and condenser (cooling tower) water piping shall be flushed, cleaned, pre-treated, and initially treated by the constructor, in accordance with the procedures of the Water Treatment Vendor under contract with PPD at the time the system is put into service. Cost of this initial treatment is to be borne by the constructor. The Water Treatment Vendor shall supply chemicals at the University contract price. The constructor is required to maintain treatment until the system is connected to the central system, or Substantial Completion, whichever comes first.

No equipment shall be put into service prior to initiation of water treatment.

END OF SECTION